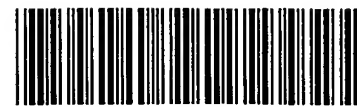


1652

ENTERED



IFWO

RAW SEQUENCE LISTING

DATE: 01/21/2004

PATENT APPLICATION: US/10/670,817

TIME: 14:26:54

Input Set : N:\Cr33\RULE60\10670817.RAW.txt

Output Set: N:\CRF4\01212004\J670817.raw

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1 <110> APPLICANT: O'Donnell, Michael E.
2   Yuzhakov, Alexander
3   Yurieva, Olga
4   Jeruzalmi, David
5   Bruck, Irina
6   Kuriyan, John
7 <120> TITLE OF INVENTION: ENZYMES DERIVED FROM THERMOPHILIC ORGANISMS THAT
8   FUNCTION AS A CHROMOSOMAL REPLICASE, PREPARATION AND
9   USE THEREOF
10 <130> FILE REFERENCE: 22221/1030
11 <140> CURRENT APPLICATION NUMBER: 10/670,817
12 <141> CURRENT FILING DATE: 2003-09-25
13 <150> PRIOR APPLICATION NUMBER: US/09/716,964
14 <151> PRIOR FILING DATE: 2000-11-21
15 <150> PRIOR APPLICATION NUMBER: 60/143,202
16 <151> PRIOR FILING DATE: 1997-04-08
17 <150> PRIOR APPLICATION NUMBER: 08/823,407
18 <151> PRIOR FILING DATE: 1997-04-08
19 <150> PRIOR APPLICATION NUMBER: 09/057,416
20 <151> PRIOR FILING DATE: 1998-04-08
21 <160> NUMBER OF SEQ ID NOS: 212
22 <170> SOFTWARE: PatentIn Ver. 2.1
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 2007
26 <212> TYPE: DNA
27 <213> ORGANISM: Thermus thermophilus
28 <400> SEQUENCE: 1
29   tccggggggtg gggttcccg gtagaccccg gccctcccg tgagccctt taccaggcc 60
30   gccacctcct ccaggggggc caaggcgtgc aaggagagga acgtccgcac cagccctat 120
31   actagccttg tgagcgccct ctaccgcgcg ttccgcccc tcacctcca ggaggtggtg 180
32   gggcaggagc acgtgaagga gccctcctc aaggccatcc gggaggggag gctcgcccag 240
33   gcctacctct tctccgggcc caggggcgtg ggcaagacca ccacggcgag gctcctcgcc 300
34   atggcggtgg ggtgccaggg ggaagacccc ccttgcgggg tctgccccca ctgccaggcg 360
35   gtgcagaggg gcgcccaccc ggacgtggtg gacattgacg ccgccaagca caactccgtg 420
36   gaggacgtgc gggagctgag ggaaggatc cacctcgccc ccctctctgc cccaggaag 480
37   gtcttcatcc tggacgaggc ccacatgctc tccaaaagcg ccttcaacgc cctcctcaag 540
38   accctggagg agccccgcgc ccacgtcctc ttggtcttcg ccaccaccga gcccgaggag 600
39   atgcccccca ccatectctc cgcacccag cacttcgctt tccgcgcct caggaggag 660
40   gagatcgctt ttaagctccg gcgcacctg gaggccgtgg ggcgggaggc ggaggaggag 720
41   gccctcctcc tctcgcccc cctggcggac ggggccctta gggacgcgga aagcctcctg 780
42   gagcgcttcc tctcctgga agggccctc acccggaagg aggtggagcg cgccctaggc 840
43   tcccccccag ggaccgggtt ggccgagatc gccgcctccc tcgcgagggg gaaaacggcg 900
44   gaggccctgg gcctcgcccc gcgcctctac ggggaagggt acgccccgag gagcctggtc 960

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RAW SEQUENCE LISTING

DATE: 01/21/2004

PATENT APPLICATION: US/10/670,817

TIME: 14:26:54

Input Set : N:\Crif3\RULE60\10670817.RAW.txt

Output Set: N:\CRF4\01212004\J670817.raw

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45      tcgggccttt tggaggtgtt ccgggaaggc ctctacgccg ccttcggcct cgcggaacc 1020
46      ccccttccc ccccgcccca ggccctgac gccgccatga ccgccctgga cgaggccatg 1080
47      gagcgctcg cccgcccgtc cgacgcctta agcctggagg tggccctcct ggaggcggga 1140
48      agggccctgg ccgcccaggc cctaccccag cccacgggcg ctccctcccc agaggtcggc 1200
49      cccaagccgg aaagccccc gaccccgga ccccaaggc ccgaggaggc gcccgaactg 1260
50      cgggagcggg ggcgggcctt cctcgaggcc ctacaggcca ccctacgggc cttcgtgcgg 1320
51      gaggcccgcc cgaggtccg ggaaggccag ctctgcctcg ctttccccga ggacaaggcc 1380
52      ttccactacc gcaaggcctc ggaacagaag gtgaggctcc tccccctggc ccaggcccat 1440
53      ttcggggtgg aggaggtcgt cctcgtcctg gaggagaaaa aaaaaagcct gagcccaagg 1500
54      ccccgcccgg ccccacctcc tgaagcgccc gcaccccg gcccctccga ggaggaggta 1560
55      gaggcggagg aagcggcgga ggaggcccc gaggaggcct tgaggcgggt ggtccgcctc 1620
56      ctgggggggc ggggtgctct ggtgcggcgg cccaggaccc gggaggcgcc ggaggaggaa 1680
57      cccctgagcc aagacgagat aggggggtact ggtatataat gggggcatga cgcgaccac 1740
58      cgacctcgga caagagaccg tggacaacat cctcaagcgc ctccgccgta ttgagggcca 1800
59      ggtgcggggg ctccagaaga tgggtggcga gggccgcccc tgcgacgagg tctcaccaca 1860
60      gatgaccgcc accaagaagg ccatggaggc ggcgccacc ctgatcctcc acgagttcct 1920
61      gaacgtctgc gccgcccagg tctccgagg caaggtgaac cccaagaagc ccgaggagat 1980
62      cgccaccatg ctgaagaact tcactca                                     2007

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64 <210> SEQ ID NO: 2

65 <211> LENGTH: 529

66 <212> TYPE: PRT

67 <213> ORGANISM: Thermus thermophilus

68 <400> SEQUENCE: 2

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69      Met Ser Ala Leu Tyr Arg Arg Phe Arg Pro Leu Thr Phe Gln Glu Val
70      1          5          10          15
71      Val Gly Gln Glu His Val Lys Glu Pro Leu Leu Lys Ala Ile Arg Glu
72      20          25          30
73      Gly Arg Leu Ala Gln Ala Tyr Leu Phe Ser Gly Pro Arg Gly Val Gly
74      35          40          45
75      Lys Thr Thr Thr Ala Arg Leu Leu Ala Met Ala Val Gly Cys Gln Gly
76      50          55          60
77      Glu Asp Pro Pro Cys Gly Val Cys Pro His Cys Gln Ala Val Gln Arg
78      65          70          75          80
79      Gly Ala His Pro Asp Val Val Asp Ile Asp Ala Ala Ser Asn Asn Ser
80      85          90          95
81      Val Glu Asp Val Arg Glu Leu Arg Glu Arg Ile His Leu Ala Pro Leu
82      100          105          110
83      Ser Ala Pro Arg Lys Val Phe Ile Leu Asp Glu Ala His Met Leu Ser
84      115          120          125
85      Lys Ser Ala Phe Asn Ala Leu Leu Lys Thr Leu Glu Glu Pro Pro Pro
86      130          135          140
87      His Val Leu Phe Val Phe Ala Thr Thr Glu Pro Glu Arg Met Pro Pro
88      145          150          155          160
89      Thr Ile Leu Ser Arg Thr Gln His Phe Arg Phe Arg Arg Leu Thr Glu
90      165          170          175
91      Glu Glu Ile Ala Phe Lys Leu Arg Arg Ile Leu Glu Ala Val Gly Arg
92      180          185          190
93      Glu Ala Glu Glu Glu Ala Leu Leu Leu Leu Ala Arg Leu Ala Asp Gly
94      195          200          205

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Input Set : N:\Crif3\RULE60\10670817.RAW.txt

Output Set: N:\CRF4\01212004\J670817.raw

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95   Ala Leu Arg Asp Ala Glu Ser Leu Leu Glu Arg Phe Leu Leu Leu Glu
96       210                215                220
97   Gly Pro Leu Thr Arg Lys Glu Val Glu Arg Ala Leu Gly Ser Pro Pro
98   225                230                235                240
99   Gly Thr Gly Val Ala Glu Ile Ala Ala Ser Leu Ala Arg Gly Lys Thr
100       245                250                255
101   Ala Glu Ala Leu Gly Leu Ala Arg Arg Leu Tyr Gly Glu Gly Tyr Ala
102       260                265                270
103   Pro Arg Ser Leu Val Ser Gly Leu Leu Glu Val Phe Arg Glu Gly Leu
104       275                280                285
105   Tyr Ala Ala Phe Gly Leu Ala Gly Thr Pro Leu Pro Ala Pro Pro Gln
106       290                295                300
107   Ala Leu Ile Ala Ala Met Thr Ala Leu Asp Glu Ala Met Glu Arg Leu
108   305                310                315                320
109   Ala Arg Arg Ser Asp Ala Leu Ser Leu Glu Val Ala Leu Leu Glu Ala
110       325                330                335
111   Gly Arg Ala Leu Ala Ala Glu Ala Leu Pro Gln Pro Thr Gly Ala Pro
112       340                345                350
113   Ser Pro Glu Val Gly Pro Lys Pro Glu Ser Pro Pro Thr Pro Glu Pro
114       355                360                365
115   Pro Arg Pro Glu Glu Ala Pro Asp Leu Arg Glu Arg Trp Arg Ala Phe
116       370                375                380
117   Leu Glu Ala Leu Arg Pro Thr Leu Arg Ala Phe Val Arg Glu Ala Arg
118   385                390                395                400
119   Pro Glu Val Arg Glu Gly Gln Leu Cys Leu Ala Phe Pro Glu Asp Lys
120       405                410                415
121   Ala Phe His Tyr Arg Lys Ala Ser Glu Gln Lys Val Arg Leu Leu Pro
122       420                425                430
123   Leu Ala Gln Ala His Phe Gly Val Glu Glu Val Val Leu Val Leu Glu
124       435                440                445
125   Gly Glu Lys Lys Ser Leu Ser Pro Arg Pro Arg Pro Ala Pro Pro Pro
126       450                455                460
127   Glu Ala Pro Ala Pro Pro Gly Pro Pro Glu Glu Glu Val Glu Ala Glu
128   465                470                475                480
129   Glu Ala Ala Glu Glu Ala Pro Glu Glu Ala Leu Arg Arg Val Val Arg
130       485                490                495
131   Leu Leu Gly Gly Arg Val Leu Trp Val Arg Arg Pro Arg Thr Arg Glu
132       500                505                510
133   Ala Pro Glu Glu Glu Pro Leu Ser Gln Asp Glu Ile Gly Gly Thr Gly
134       515                520                525
135   Ile
137 <210> SEQ ID NO: 3
138 <211> LENGTH: 1590
139 <212> TYPE: DNA
140 <213> ORGANISM: Thermus thermophilus
141 <400> SEQUENCE: 3
142   gtgagcgccc tctaccgccg cttccgcccc ctcaccttcc aggaggtggt ggggcaggag 60
143   cacgtgaagg agcccctcct caaggccatc cgggagggga ggctcgcca ggcctacctc 120
144   ttctccgggc ccaggggcgt gggcaagacc accacggcga ggctcctcgc catggcggtg 180

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/670,817

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Input Set : N:\Crif3\RULE60\10670817.RAW.txt

Output Set: N:\CRF4\01212004\J670817.raw

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145 ggggtgccagg gggaagaccc cccttgccgg gtctgcccc actgccaggc ggtgcagagg 240
146 ggcgcccacc cggacgtggt ggacattgac gccgccagca acaactccgt ggaggacgtg 300
147 cgggagctga gggaaaggat ccacctcgcc cccctctctg cccccaggaa ggtcttcac 360
148 ctggacgagg cccacatgct ctccaaaagc gccttcaacg ccctcctcaa gaccctggag 420
149 gagccccgc cccacgtcct cttcgtcttc gccaccaccg agcccgagag gatgcccccc 480
150 accatcctct cccgcaccca gcacttccgc ttccgccgcc tcacggagga ggagatcgcc 540
151 tttaaactcc ggcgcatcct ggaggccgtg gggcgggagg cggaggagga ggcctcctc 600
152 ctctcgcgcc gcttgccgga cggggccctt agggacgcgg aaagcctcct ggagcgcttc 660
153 ctctcctctg aaggccccct caccggaag gaggtggagc gcgccctagg ctcccccca 720
154 gggaccgggg tggccgagat cgccgcctcc ctcccgaggg ggaaaacggc ggaggccctg 780
155 ggcctcgccc ggcgcctcta cggggaagg tacgccccga ggagcctggt ctcgggcctt 840
156 ttggagggtg tccgggaagg cctctacgcc gccttcggcc tcgcggaac ccccttccc 900
157 gccccgcccc aggcctgat cgccgccatg accgccttg acgaggccat ggagcgctc 960
158 gcccgcgct cgcagcctt aagcctggag gtggccctcc tggaggcggg aaggccctg 1020
159 gccgcgagg ccctaccca gccacgggc gtccttccc cagaggtcgg cccaagccg 1080
160 gaaagcccc cgacccgga accccaagg cccgaggagg cggccgacct gcgggagcgg 1140
161 tggcgggcct tctcgaggc ctcaggccc accctacggg ccttcgtgcg ggaggcccg 1200
162 ccggagggtc gggaaggcca gctctgcctc gcttccccg aggacaaggc cttccactac 1260
163 cgcaaggcct cggaacagaa ggtgaggctc ctccccctg cccaggccca tttcggggtg 1320
164 gaggagggtc tctcgtcct ggaggagaa aaaaaagcc tgagcccaag gcccgcggc 1380
165 gccccacctc ctgaagcgc cgacccccg ggccctccc aggaggaggt agaggcggag 1440
166 gaagcggcgg aggaggcccc ggaggaggc ttgaggcggg tggccgcct cctgggggg 1500
167 cgggtgctct ggggtgcggc gccaggacc cgggaggcgc cggaggagga acccctgagc 1560
168 caagacgaga tagggggtac tggtatataa 1590

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170 <210> SEQ ID NO: 4

171 <211> LENGTH: 464

172 <212> TYPE: PRT

173 <213> ORGANISM: Thermus thermophilus

174 <400> SEQUENCE: 4

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175 Met Ser Ala Leu Tyr Arg Arg Phe Arg Pro Leu Thr Phe Gln Glu Val
176      1              5              10              15
177 Val Gly Gln Glu His Val Lys Glu Pro Leu Leu Lys Ala Ile Arg Glu
178      20              25              30
179 Gly Arg Leu Ala Gln Ala Tyr Leu Phe Ser Gly Pro Arg Gly Val Gly
180      35              40              45
181 Lys Thr Thr Thr Ala Arg Leu Leu Ala Met Ala Val Gly Cys Gln Gly
182      50              55              60
183 Glu Asp Pro Pro Cys Gly Val Cys Pro His Cys Gln Ala Val Gln Arg
184      65              70              75              80
185 Gly Ala His Pro Asp Val Val Asp Ile Asp Ala Ala Ser Asn Asn Ser
186      85              90              95
187 Val Glu Asp Val Arg Glu Leu Arg Glu Arg Ile His Leu Ala Pro Leu
188      100             105             110
189 Ser Ala Pro Arg Lys Val Phe Ile Leu Asp Glu Ala His Met Leu Ser
190      115             120             125
191 Lys Ser Ala Phe Asn Ala Leu Leu Lys Thr Leu Glu Glu Pro Pro Pro
192      130             135             140
193 His Val Leu Phe Val Phe Ala Thr Thr Glu Pro Glu Arg Met Pro Pro
194      145             150             155             160

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RAW SEQUENCE LISTING

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Input Set : N:\Crif3\RULE60\10670817.RAW.txt

Output Set: N:\CRF4\01212004\J670817.raw

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195   Thr Ile Leu Ser Arg Thr Gln His Phe Arg Phe Arg Arg Leu Thr Glu
196                               165                               170                               175
197   Glu Glu Ile Ala Phe Lys Leu Arg Arg Ile Leu Glu Ala Val Gly Arg
198                               180                               185                               190
199   Glu Ala Glu Glu Glu Ala Leu Leu Leu Ala Arg Leu Ala Asp Gly
200                               195                               200                               205
201   Ala Leu Arg Asp Ala Glu Ser Leu Leu Glu Arg Phe Leu Leu Leu Glu
202                               210                               215                               220
203   Gly Pro Leu Thr Arg Lys Glu Val Glu Arg Ala Leu Gly Ser Pro Pro
204   225                               230                               235                               240
205   Gly Thr Gly Val Ala Glu Ile Ala Ala Ser Leu Ala Arg Gly Lys Thr
206                               245                               250                               255
207   Ala Glu Ala Leu Gly Leu Ala Arg Arg Leu Tyr Gly Glu Gly Tyr Ala
208                               260                               265                               270
209   Pro Arg Ser Leu Val Ser Gly Leu Leu Glu Val Phe Arg Glu Gly Leu
210                               275                               280                               285
211   Tyr Ala Ala Phe Gly Leu Ala Gly Thr Pro Leu Pro Ala Pro Pro Gln
212   290                               295                               300
213   Ala Leu Ile Ala Ala Met Thr Ala Leu Asp Glu Ala Met Glu Arg Leu
214   305                               310                               315                               320
215   Ala Arg Arg Ser Asp Ala Leu Ser Leu Glu Val Ala Leu Leu Glu Ala
216                               325                               330                               335
217   Gly Arg Ala Leu Ala Ala Glu Ala Leu Pro Gln Pro Thr Gly Ala Pro
218                               340                               345                               350
219   Ser Pro Glu Val Gly Pro Lys Pro Glu Ser Pro Pro Thr Pro Glu Pro
220   355                               360                               365
221   Pro Arg Pro Glu Glu Ala Pro Asp Leu Arg Glu Arg Trp Arg Ala Phe
222   370                               375                               380
223   Leu Glu Ala Leu Arg Pro Thr Leu Arg Ala Phe Val Arg Glu Ala Arg
224   385                               390                               395                               400
225   Pro Glu Val Arg Glu Gly Gln Leu Cys Leu Ala Phe Pro Glu Asp Lys
226                               405                               410                               415
227   Ala Phe His Tyr Arg Lys Ala Ser Glu Gln Lys Val Arg Leu Leu Pro
228   420                               425                               430
229   Leu Ala Gln Ala His Phe Gly Val Glu Glu Val Val Leu Val Leu Glu
230   435                               440                               445
231   Gly Glu Lys Lys Lys Pro Glu Pro Lys Ala Pro Pro Gly Pro Thr Ser
232   450                               455                               460
234 <210> SEQ ID NO: 5
235 <211> LENGTH: 454
236 <212> TYPE: PRT
237 <213> ORGANISM: Thermus thermophilus
238 <400> SEQUENCE: 5
239   Met Ser Ala Leu Tyr Arg Arg Phe Arg Pro Leu Thr Phe Gln Glu Val
240   1                               5                               10                               15
241   Val Gly Gln Glu His Val Lys Glu Pro Leu Leu Lys Ala Ile Arg Glu
242   20                               25                               30
243   Gly Arg Leu Ala Gln Ala Tyr Leu Phe Ser Gly Pro Arg Gly Val Gly
244   35                               40                               45

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/670,817

DATE: 01/21/2004
TIME: 14:26:55

Input Set : N:\Crf3\RULE60\10670817.RAW.txt
Output Set: N:\CRF4\01212004\J670817.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:17; Xaa Pos. 2,3,5
Seq#:29; N Pos. 6,12,21
Seq#:30; N Pos. 7,10,19,22
Seq#:42; N Pos. 7,8,13,14
Seq#:43; N Pos. 8,9,17,18
Seq#:66; Xaa Pos. 3,5
Seq#:67; Xaa Pos. 4,7
Seq#:68; Xaa Pos. 3,5
Seq#:89; Xaa Pos. 79
Seq#:91; Xaa Pos. 47,57

VERIFICATION SUMMARY

DATE: 01/21/2004

PATENT APPLICATION: US/10/670,817

TIME: 14:26:55

Input Set : N:\Cr3\RULE60\10670817.RAW.txt

Output Set: N:\CRF4\01212004\J670817.raw

L:405 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:408 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17
L:411 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17
L:414 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17
L:415 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0
L:769 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:772 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:29
L:775 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:29
L:778 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:29
L:779 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0
L:787 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:790 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:30
L:793 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:30
L:796 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:30
L:799 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:30
L:800 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0
L:907 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:910 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:42
L:913 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:42
L:916 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:42
L:919 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:42
L:920 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0
L:928 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:931 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43
L:934 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43
L:937 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43
L:940 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43
L:941 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0
L:1141 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:1144 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:66
L:1147 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:66
L:1148 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66 after pos.:0
L:1157 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:1160 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:67
L:1163 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:67
L:1164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:67 after pos.:0
L:1173 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:1176 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:68
L:1179 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:68
L:1180 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:68 after pos.:0
L:1650 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:89 after pos.:64
L:1710 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:91
L:1715 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:91 after pos.:32
M:341 Repeated in SeqNo=91
L:5640 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:5643 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:193
L:5646 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:193